

1 Amendments to the claims

2 Please cancel claims 22 and 25-26 without prejudice. Please amend claims
3 21 and 35 as provided below. Please also add new claims 41-43 as provided below.

5 Claims 1-20 (Cancelled).

7 Claim 21 (Currently amended). Apparatus comprising an optical fibre having a
8 waveguide and at least one stress applying region, wherein:

9 the waveguide is defined by a numerical aperture;

10 the stress applying region is defined by a depressed refractive index;

11 the optical fibre is configured such that the waveguide supports at an
12 operating wavelength at least two polarised fundamental modes, two polarised first
13 second-order modes, and two polarised second second-order modes;

14 the waveguide comprises a gain medium; and

15 the optical fiber is disposed in a bend; and

16 the stress applying region, the waveguide and, the disposition of the gain
17 medium, and the bend of the optical fiber are such:

18 as to provide preferential guidance to at least one of the modes at an
19 the operating wavelength;

20 the two polarised first second-order modes and the two polarised
21 second second-order modes are leaky at the operating wavelength; and

22 the optical fibre operates as a single polarisation optical fibre at the
23 operating wavelength.

25 Claim 22 (Cancelled).

(Continued on next page.)

1 Claim 23 (Previously presented). The apparatus of claim 21 wherein the gain
2 medium comprises one or more rare-earth dopants.

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4 Claim 24 (Previously presented). Apparatus according to claim 23 in which the rare
5 earth dopant comprises one or more of Ytterbium, Erbium, Neodymium,
6 Praseodymium, Thulium, Samarium, Holmium, Europium, Terbium, and Dysprosium.

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8 Claims 25-26 (Cancelled).

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10 Claim 27 (Previously presented). The apparatus of claim 21 wherein the optical fibre
11 is defined by a length, and is tapered along its length.

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13 Claim 28 (Previously presented). The apparatus of claim 21 wherein the waveguide
14 is defined by a length, and is tapered along its length.

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16 Claim 29 (Previously presented). The apparatus of claim 21 wherein the numerical
17 aperture corresponds to an index difference less than 0.0035.

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19 Claim 30 (Previously presented). The apparatus of claim 21 wherein the numerical
20 aperture corresponds to an index difference less than 0.003.

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22 Claim 31 (Previously presented). The apparatus of claim 21 wherein the numerical
23 aperture corresponds to an index difference less than 0.0025.

24

25 Claim 32 (Previously presented). The apparatus of claim 21 wherein the numerical
aperture corresponds to an index difference less than 0.002.

1 Claim 33 (Previously presented). The apparatus of claim 21 wherein the optical fibre
2 comprises a photosensitive region.

3

4 Claim 34 (Previously presented). The apparatus of claim 33 wherein which the
5 photosensitive region is at least partly in the stress applying region.

6

7 Claim 35 (Currently amended). Apparatus according to claim ~~13~~ 33 in which the
8 photosensitive region is at least partly in the waveguide.

9

10 Claim 36 (Previously presented). The apparatus of claim 21 wherein the optical fibre
11 is defined by a stimulated Brillouin scattering threshold, and the optical fibre has
12 been exposed to ultraviolet radiation at least partly along its length in order to
13 increase the stimulated Brillouin scattering threshold.

14

15 Claim 37 (Previously presented). The apparatus of claim 21 wherein the optical fibre
16 is defined by a stimulated Brillouin scattering threshold, and the optical fibre has
17 been exposed to heat treatment at least partly along its length in order to increase
18 the stimulated Brillouin scattering threshold.

19

20 Claim 38 (Previously presented). The apparatus of claim 21 wherein the apparatus
21 is in the form of an optical amplifying device.

22

23 Claim 39 (Previously presented). The apparatus of claim 38 wherein the optical
24 amplifying device is configured to provide single-polarisation operation.

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(Continued on next page.)

1 Claim 40 (Previously presented). The apparatus of claim 38 wherein the optical
2 amplifying device is an optical amplifier, a laser, a master oscillator power amplifier,
3 or a source of amplified spontaneous emission.

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5 Claim 41 (New). The apparatus of claim 21 wherein the optical fibre contains
6 longitudinally extending holes along its length.

7

8 Claim 42 (New). The apparatus of claim 21 wherein the bend is defined by an
9 azimuth, and bend losses caused by the bend are tuned by controlling the azimuth.

10

11 Claim 43 (New). The apparatus of claim 21 wherein the optical fibre comprises a
12 depressed cladding region.

13

14 (End of Amendment "B".)

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16 (Continued on next page.)